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METHOD FOR ACQUIRING, STORING AND ANALYZING CRYSTAL IMAGES.

AND ANALYZING CRYSTAL IMAGES
This application claims benefit of Prev. Appl. 60/052,502 filed 7/16/97
This invention was made with Government support under contract NAS8-

40839 awarded by NASA. The Government has certain rights in this invention.

Background of the Invention

I. Field of the Invention

The present invention relates to a computer controlled system which acquires, stores and analyzes crystal images and other parameters relevant to the crystals, or microscopic details of other specimens.

II. Description of the Prior Art

In many chemical, pharmaceutical and medical applications crystals, e.g. protein crystals, are grown in trays for subsequent evaluation by a lab technician or scientist (hereinafter collectively referred to as “technician”). In evaluating the crystals once grown, the lab technician examines the crystals under the microscope and then visually evaluates or rates individual crystals. The straightness of the crystal edges, size of the crystal, presence or absence of flaws in the crystal as well as other crystal parameters are used by the technician in his or her rating process. The technician may also maintain notes of other parameters, such as pH, crystal growing time, temperature, et cetera, which are relevant to the particular crystal.

In some instances, the technician will take and maintain a photograph of the particular crystal under examination. The photograph is then stored along with the notes relevant to the particular crystals in the particular tray.

This previously known system for evaluating and rating crystals is disadvantageous for a number of reasons. Most prominently, the crystal evaluation and rating system is labor intensive and, thus, not only slow and expensive in labor costs, but also tedious for the technician.

A still further disadvantage of these previously known systems is that the photographic record used for the examined crystal is expensive in material costs from the photographic process. Furthermore, photographs by their very nature are easily damaged and also deteriorate over time.

DSI-10052/22
80716gs

A still further disadvantage of the previously known method for evaluating and rating crystals is that no efficient means or system has been previously known for cross-referencing the various crystals and crystal parameters relative to each

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